## **EMPLOYEE TRAINING RECORD**

#### TRAINING TITLE

Confined Spaces - Hazards - Atmospheric Hazards and Behavior of Gases

#### **KEY TEACHING POINTS**

#### **ATMOSPHERIC**

- The safest atmosphere is one that is most similar to normal air.
- The composition of air is:
  - 78% nitrogen.
  - 20.9% oxygen.
  - 1% carbon dioxide and other gases.
- Confined spaces generally have poor air circulation and non-homogenous atmospheres (you can have different atmospheres within the same space).
- The types of atmospheres include:
  - Oxygen deficient Any atmosphere that has less than 19.5% oxygen by volume.
  - Combustible or flammable An atmosphere with flammable vapors or an oxygen level above 23.5%.
  - Toxic An atmosphere containing excessive levels of toxic gases, vapors, mists or dusts.
- It is possible to have any combination of these three hazards.

# **BEHAVIOR OF GASES**

• Vapors have a density. They weight a certain amount per cubic foot. If the density of the vapor is greater than air, the vapor will settle to the bottom of a confined space. If it is lighter than air, it will rise. In a space, different gases may form layers or stratify. They can also form pockets that are quite stable and persist for long periods.

### **TEST**

QUESTION		ANSWERS	
		TRUE	FALSE
1. Oxygen deficient atmospheres are those with less than 19.5%.			
2. Toxic atmospheres are those containing excessive levels of toxic gases, vapors, mists or dusts.			
3. Confined spaces generally have good air circulation.			
4. Vapor density will help you decide the hazards in the space.			
5. Oxygen levels above 23.5% will not support combustion.			
EMPLOYEE'S NAME	EMPLOYEE'S SIGNATURE	DATE	
INSTRUCTOR'S NAME	INSTRUCTOR'S SIGNATURE	DATE	